ZERO RETRIES

JOURNAL OF THE

Northwest Amateur Packet Radio Association

September/October 1989
Volume 6 Number 2

Steve Stroh N8GNJ Editor

NAPRA MEETINGS:

Saturday, September 9, 1989 13:00
Radio Club of Tacoma, 1249 Washington Street, Tacoma, WA

From I-5 South, go West on Highway 16 (Union Avenue). Left on South 15th Street, Right on Washington Street, and look for tower w/beam. Talk in on 145.33-.

The topic of the September meeting will be technical discussions of the Northwest Packet Network and its current problems. Steve Stroh N8GNJ will discuss his recent talk at the Tacoma Hamfair and the disappointing response to it to date. The proposed constitutional changes and the upcoming elections will be discussed.

Saturday, October 14, 1989 13:00

Boeing Employees Amateur Radio Society Club House
Renton Municipal Airport, Renton WA

From 405S, take exit 2B, 167N, Ranier Ave S., Turn right on Airport way, Turn Left into Renton Municipal Airport. The BEARS clubhouse is directly beneath the OLD control tower. Talk in on 145.33-.

The topic of the October meeting will be the 1989 Election of NAPRA officers and directors. This will be a chance to discuss what NAPRA's agenda should be in the coming year. Should there be more emphasis placed on issues of direct concern to the users? Should there be more emphasis placed on Northwest Packet Network issues? Should NAPRA be primarily a technical organization? These and many other issues will be discussed with the newly-elected board for the first time. Please attend and let your opinions be heard.

NAPRA Board of Directors Meetings are held at the Omni Restaurant (in their meeting room) in Seattle on the Third Wednesday of each month at 7:00 P.M. The Omni's address is 4701 S 188th Street, just West of I-5 (take the 188th Street exit).

The public is welcome to attend these or any other NAPRA meeting.

NAPRA VOICE NET:

NAPRA sponsors a Packet Radio Ragchew every Thursday night from 9:00 to 10:00 P.M. on the Evergreen Intertie Voice Repeater Network. In the Puget Sound area, the frequency is 145.33 (-600 KHz input). Any questions, comments, or news are welcome. Newcomers to packet are especially encouraged to check in.

FROM THE BIT BUCKET (EDITORIAL)

Steve Stroh N8GNJ

Zero Retries has not been published since the January/February issue. There were a number of reasons for this, among them lack of articles, the treasury balance getting a bit slim, and a busy schedule on the part of the editor. Other than the ever-present need for member written articles dealing with personal experiences, the Northwest Packet Network, and technical topics relating to (but not restricted to) Packet Radio, the other issues have been addressed and should not be a problem in the future.

1990 should prove to be one of the most interesting years in Packet Radio yet. The number of users of Packet Radio is at an all time high, and technical developments such as commercially available off-the-shelf 9600 baud Packet Radios promise some relief for those lusting after high performance Packet Radio systems. 1990 may also prove to be one of the worst years for Packet Radio in the Puget Sound area also because of the increasing popularity of Packet Radio.

You will find elsewhere in this issue the text of a handout that was distributed at the packet discussion held at the recent Tacoma Hamfair. The response to date has been disappointing. The handout discussed the need to significantly increase the capacity of the Northwest Packet Network, especially in the fast-growing Puget Sound region.

The bottom line for the continued orderly growth of Packet Radio in the Northwest is money and talent. Without sufficient funds to construct a higher-capacity backbone network and build more (and more sophisticated) Local Area Network nodes, the ever increasing number of packeteers can only make the situation worse. Without more talent to contribute new ideas and new approaches to problems, those who are doing the work now will simply burn out.

In all fairness, one of NAPRA's historical weaknesses has been that it does not do a very good job of keeping those outside of the packet community informed about matters relating to Packet Radio. This has been recognized as a major problem, and will receive much more attention in the coming year. It is hoped that as a result of this increased emphasis on communication, NAPRA will begin to attract the funds and personnel necessary to begin to rebuild the Northwest Packet Network.

What can be done now? For one, begin attending NAPRA meetings and find out what is happening with Packet Radio and the Northwest Packet Network. Some have complained that the meetings are too "techy". Others have complained that the meetings aren't "techy" enough. Make <u>your</u> opinions heard.

For another, continue your NAPRA membership and if you know another packeteer who uses the Northwest Packet Network on a regular basis, pass on your copy of Zero Retries and encourage them to join NAPRA. If you have expertise that you would like to contribute to packet, please let one of the officers (listed in every issue of ZR) know that you would like to help.

The four remaining 1989 NAPRA meetings will be especially important. Many of the decisions that will guide NAPRA into the early 1990's will be made there. What kind of organization should NAPRA be, what type of network architecture would be most appropriate for the Northwest, what services should NAPRA provide (or not) are just a few of the questions that need to be addressed.

Having recently moved to the Northwest from the Midwest, I have seen firsthand the results (more appropriately, the lack of results) of NOT having an organization such as NAPRA. These experiences give me a very intense appreciation of the unique role that NAPRA plays in the Northwest Packet Network. NAPRA is truly a resource that many parts of the country can only dream about. I feel very strongly that NAPRA is one of the very best organizations of its kind and that is why I and many others devote so much time and energy to it and its activities. We think that there are others like us out there, and we would very much like to meet them.

HOW'S THIS FOR A UI FRAME?

A network node which sends your connect request into an endless loop-back is properly called a "Roto-Router."

Sperry Goodman W7AZU

PROPOSED CHANGES TO THE CONSTITUTION AND BY-LAWS OF THE NORTHWEST AMATEUR PACKET RADIO ASSOCIATION

The following proposed changes to the constitution and by-laws will:

1) Restructure the election process of the officer positions to allow the board of directors to determine among themselves who can best fill the officer positions.

2) Change the balloting method to be accomplished totally by mail to allow distant members the opportunity to vote.

3) Correct the wording of the by-laws to agree with the past voted changes to the dues structure. Dues are on a revolving basis.

Constitution Changes:

ARTICLE IV - OFFICERS

Present:
1. The officers will consist of (in order of succession): President, Executive Vice President, Technical Vice President, Secretary, Treasurer, Director-at-large, who is the senior ranking returning officer, and Director-at-large, who is elected by the membership.

Proposed:
1. The officers will consist of (in order of succession): President, Executive Vice President, Technical Vice President, Secretary, Treasurer, and two Directors-at-large.

Present:
2. The officers of the club shall be elected by ballot and shall hold office for one year.

Proposed:
2. The Board of Directors shall be elected by ballot and shall hold office for one year beginning at the next regular Board of Directors meeting. The Directors shall, in a manner agreeable to the Board, organize themselves so as to fill the officer positions.

By-Law Changes:

Present:
4. Regular dues for full members is $15.00 per year, payable after October 1 and past due on January 1. When more than one person living in a household wishes to become a member, regular dues shall be $15.00 plus $2.00 per year for each additional family member. Dues for new membership applications shall be prorated quarterly.

Proposed:
4. Dues for a full member is $15.00 per 12 month period. When more than one person living in a household wishes to become a member, dues shall be $15.00 plus $2.00 per year for each additional family member.

Present:
5. Members who have failed to pay dues by February 1 shall be dropped from the mailing list. They may be reinstated by paying the current years dues. Persons who are more than one year in arrears for dues shall submit a new membership application.

Proposed:
5. (Deleted)

Present:
9. A nominating committee shall be appointed at or before the August meeting. This committee shall consist of at least three (3) members. This committee shall report to the membership at the September meeting and via NAPRA Newsletter. Election of Officers shall take place at the October meeting and those elected shall assume the duties of office upon election.

Proposed:
9. A nominating committee shall be appointed at or before the August meeting. This committee shall consist of at least three (3) members and shall report to the membership at the September meeting. Candidates will be nominated at the September meeting from the floor and by mail received at the published NAPRA address prior to the meeting date. Election of Directors shall be by mailed ballot received by the first Saturday of October. The results will be announced at the October meeting. Those elected shall assume the duties of office at the Board of Directors October regular meeting.

SIMPLEX IN A WORLD OF REPEATERS

John MacDuff - KA7TTY

Some time ago I became interested in how many different 2 meter simplex frequencies there where. I started with the 2 meter amateur band from 148.000 MHz to 148.000 MHz, and inserted all the dedicated frequencies.

Starting at 144 MHz, there is Earth Moon Earth (EME) moon bounce up to 144.050 MHz, 144.050 to 144.060 MHz for propagation beacons, and CW from 144.060 to 144.100 MHz. There is more EME from 144.100 to 144.200 MHz. 144.200 MHz is the National Calling Frequency for SSB, followed by general SSB from 144.200 to 144.300 MHz. OSCAR is on 144.300 to 144.500, and FM repeater inputs start at 144.500 to 144.900 MHz (more specifically 144.510 to 144.890 MHz with 20 KHz separation). Simplex uses 144.900 to 145.100 MHz.

Next comes FM repeater outputs from 145.100 to 145.500 MHz (specifically 145.110 to 145.490 MHz). Simplex and other things are from 145.500 to 145.800 MHz, OSCAR is from 145.800 to 146.000 MHz, and FM repeater inputs from 146.010 to 146.370 MHz. Next, simplex in from 146.400 to 146.580 MHz.

More repeater outputs are from 146.610 to 147.390 MHz, simplex uses 147.400 to 147.590 MHz, and repeater outputs use 147.600 to 147.990. So what is really left to use on simplex?

SIMPLEX FREQUENCIES
(20 KHz)

144.91 P	145.51	145.71	146.42 #	147.40
144.93 P	145.53	145.73	146.44 #	147.42
144.95 P	145.55	145.75	146.46 #	147.44
144.97 P	145.57	145.77	146.48	147.46
144.99 P	145.59	145.79	146.50	147.48
145.01 P	145.61		146.52 *	147.50
145.03 P	145.63		146.54	147.52
145.05 P	145.65		146.56	147.54
145.07 P	145.67		146.58	147.56
145.09 P	145.69		146.60	145.58

P=packet, #=local option rpt input, *=National Calling Frequency. Note: DX NET is presently on 147.53 (s/b 147.52 or 147.54)

As you can see, some of the traditional simplex frequencies are not on the list. Any of you who have checked into our [Issaquah Amateur Radio Club's] Sunday evening rag-chew [on simplex], may have heard what happens when you have a station 10 KHz off your frequency. You will also note that Packet Radio is regularly occupying several of the frequencies [11 out of 45].

I hope this list will be helpful to anyone looking for a new simplex frequency. We should all, myself included, reconsider the simplex frequencies we are currently using, and try to fit the band plan.

[From article in the Issaquah Amateur Radio Club's SQUAKBOX, June, 1987, with update]

[Below is the text of a handout that I distributed at the Packet Radio talk at the recent Hamfair.- Ed.]

NORTHWEST AMATEUR PACKET RADIO ASSOCIATION
Update - August 1989

The Northwest Packet Network is now seriously overloaded. During peak usage times, it is not unusual for users to be unable to sustain a connection to a bulletin board system or to a friend on another local area network via the 220 MHz Backbone. This situation will continue to worsen unless a substantial investment is made in the very near future to upgrade heavily used User nodes and redesign and upgrade the 220 MHz Backbone.

The current problems are the result of the success of the network. The Hidden Terminal Syndrome (users don't "see" other users transmit, resulting in collisions) on the User nodes, and the sheer volume of traffic on the 220 MHz Backbone have always been present, but were not limiting factors because of the surplus capacity of the network. Now, that surplus capacity is exhausted.

The following are three priorities that need immediate attention in attempting to solve these problems.

1. Upgrade the heavily used User nodes to a Full Duplex/Digital Regeneration system. This will dramatically reduce number of collisions on the user channel, and allow users to connect directly to each other on the User node frequency without the Hidden Terminal Syndrome. No changes in the user's equipment will be necessary.

A secondary solution to User node congestion would be to move the BBS off of the user frequency. This can be accomplished by either providing a special BBS-to-node channel on another band, or to incorporate the function of the BBS into the node hardware through the use of a PC type computer and the G8BPQ "PC Node" software.

2. Upgrade the backbone to increase its transmission speed, reduce the collisions that occur as a result of too many nodes on a single frequency, and the collisions that are caused by occasional "skip".

3. Build additional high speed nodes to accommodate the 9600 baud radio/modems that are available from Pac-Comm, TAPR, and Hamtronics.

The ARRL has recently endorsed the addition a new class of Amateur Radio license that will not require knowledge of the Morse Code. We feel that this new license class will interest many potential amateurs who have been interested in Amateur Radio but were put off by the relatively archaic requirement for knowledge of Morse code. We expect that many of these new Amateurs will be involved in high technology careers, and have very valuable skills.

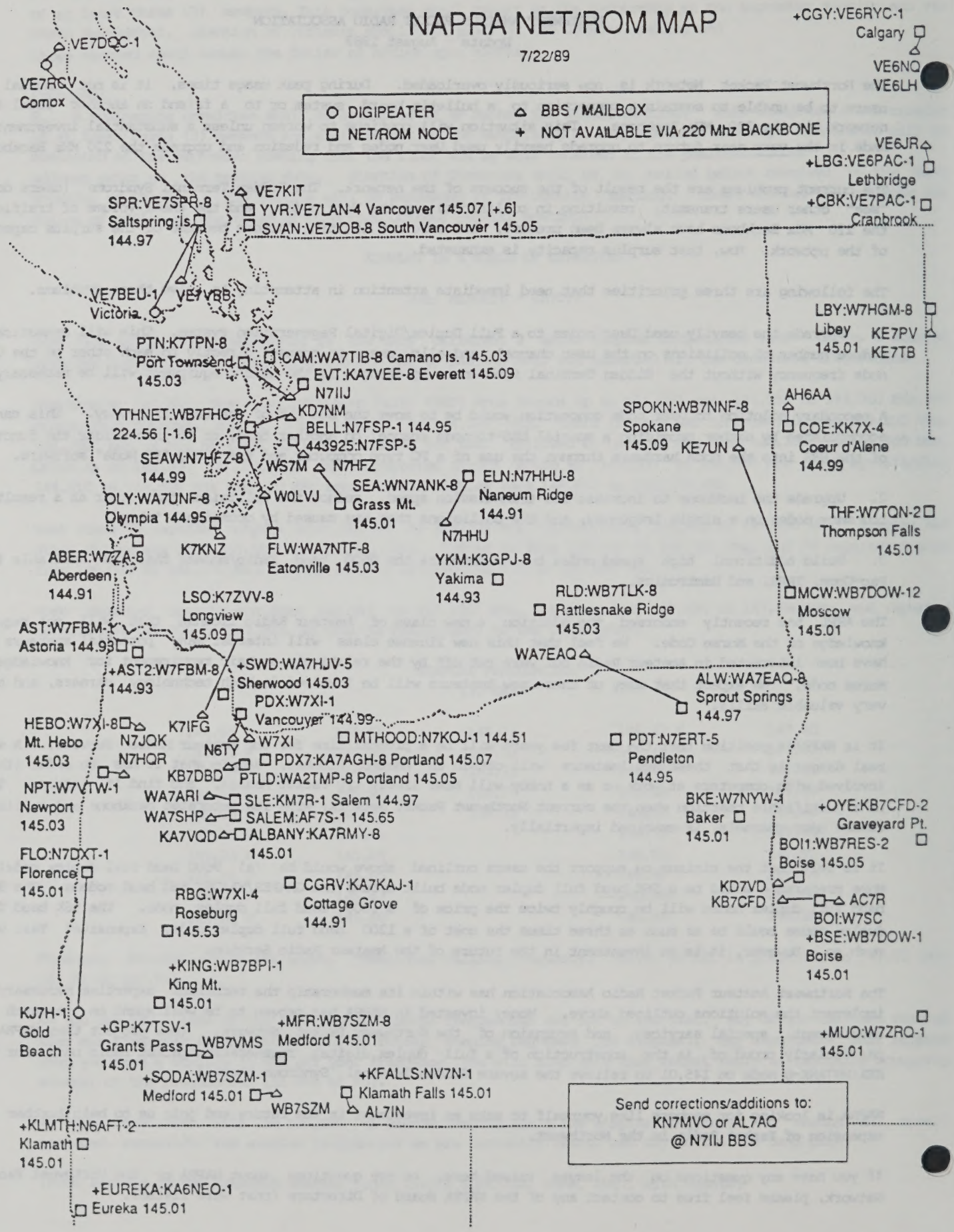
It is NAPRA's position that the next few years will be a pivotal time for the Amateur Radio Service. A very real danger is that these new Amateurs will obtain an Amateur License, sample what it has to offer (those involved with computers at work or as a hobby will most likely try Packet Radio), and find it lacking. This is a justifiable reaction when the current Northwest Packet Network, with its saturated backbone and collision ridden user channels, is examined impartially.

It is felt that the minimum to support the users outlined above would be (a) 9600 baud full duplex node(s). More preferable would be a 56K baud full duplex node built around the GRAPES/WA4DSY 56K baud modems. The 9600 baud full duplex nodes will be roughly twice the price of a 1200 baud full duplex node. The 56K baud full duplex nodes could be as much as three times the cost of a 1200 baud full duplex node. Expensive? Yes, very much so. However, it is an investment in the future of the Amateur Radio Service.

The Northwest Amateur Packet Radio Association has within its membership the technical expertise necessary to implement the solutions outlined above. Money invested in NAPRA has proven to be well spent on research and development, special services, and expansion of the Northwest Packet Network. (One project that NAPRA is particularly proud of is the construction of a full duplex digital regeneration packet radio node for the SEA:WN7ANK-8 node on 145.01 to relieve the severe Hidden Terminal Syndrome there.)

NAPRA is looking for members like yourself to make an investment in the future and join us to help further the expansion of Packet Radio in the Northwest.

If you have any questions on the issues raised here, or any questions about NAPRA or the Northwest Packet Network, please feel free to contact any of the NAPRA Board of Directors (that were listed).


NAPRA NET/ROM MAP
7/22/89
O DIGIPEATER
BBS / MAILBOX
NET/ROM NODE
+ NOT AVAILABLE VIA 220 Mhz BACKBONE
+CGY:VE6RYC-1
Calgary
VE6NQ
VE6LH
VE7DQC-1
VE7RGV
Comox
VE6JR
+LBG:VE6PAC-1
Lethbridge
+CBK:VE7PAC-1
Cranbrook
VE7KIT
SPR:VE7SPR-8
Saltspring Is
144.97
YVR:VE7LAN-4 Vancouver 145.07 [+.6]
SVAN:VE7JOB-8 South Vancouver 145.05
VE7BEU-1
Victoria
VE7VBB
LBY:W7HGM-8
Libey
145.01
KE7PV
KE7TB
PTN:K7TPN-8
Port Townsend
145.03
CAM:WA7TIB-8 Camano Is. 145.03
EVT:KA7VEE-8 Everett 145.09
N7IIJ
KD7NM
YTHNET:WB7FHC-8
224.56 [-1.6]
BELL:N7FSP-1 144.95
443925:N7FSP-5
SEAW:N7HFZ-8
144.99
WS7M
N7HFZ
SEA:WN7ANK-8
Grass Mt.
145.01
ELN:N7HHU-8
Naneum Ridge
144.91
N7HHU
W0LVJ
OLY:WA7UNF-8
Olympia 144.95
K7KNZ
FLW:WA7NTF-8
Eatonville 145.03
ABER:W7ZA-8
Aberdeen
144.91
YKM:K3GPJ-8
Yakima
144.93
SPOKN:WB7NNF-8
Spokane
145.09
KE7UN
AH6AA
COE:KK7X-4
Coeur d'Alene
144.99
THF:W7TQN-2
Thompson Falls
145.01
RLD:WB7TLK-8
Rattlesnake Ridge
145.03
MCW:WB7DOW-12
Moscow
145.01
LSO:K7ZVV-8
Longview
145.09
AST:W7FBM-1
Astoria 144.93
WA7EAQ
ALW:WA7EAQ-8
Sprout Springs
144.97
+AST2:W7FBM-8
144.93
+SWD:WA7HJV-5
Sherwood 145.03
PDX:W7XI-1
Vancouver 144.99
HEBO:W7XI-8
Mt. Hebo
145.03
K7IFG
N7JQK
N7HQR
N6TY
W7XI
MTHOOD:N7KOJ-1 144.51
PDT:N7ERT-5
Pendleton
144.95
PDX7:KA7AGH-8 Portland 145.07
KB7DBD
PTLD:WA2TMP-8 Portland 145.05
NPT:W7VTW-1
Newport
145.03
WA7ARI
SLE:KM7R-1 Salem 144.97
WA7SHP
SALEM:AF7S-1 145.65
KA7VQD
ALBANY:KA7RMY-8
145.01
BKE:W7NYW-1
Baker
145.01
+OYE:KB7CFD-2
Graveyard Pt.
BOI1:WB7RES-2
Boise 145.05
FLO:N7DXT-1
Florence
145.01
RBG:W7XI-4
Roseburg
145.53
CGRV:KA7KAJ-1
Cottage Grove
144.91
KD7VD
KB7CFD
AC7R
BOI:W7SC
+BSE:WB7DOW-1
Boise
145.01
+KING:WB7BPI-1
King Mt.
145.01
KJ7H-1
Gold
Beach
+GP:K7TSV-1
Grants Pass
145.01
WB7VMS
+MFR:WB7SZM-8
Medford 145.01
+MUO:W7ZRQ-1
145.01
+SODA:WB7SZM-1
Medford 145.01
WB7SZM
+KFALLS:NV7N-1
Klamath Falls 145.01
AL7IN
Send corrections/additions to:
KN7MVO or AL7AQ
@ N7IIJ BBS
+KLMTH:N6AFT-2
Klamath
145.01
+EUREKA:KA6NEO-1
Eureka 145.01

NORTHWEST AMATEUR PACKET RADIO ASSOCIATION

Membership Application/Renewal Form 8/89

NAPRA, the Northwest Amateur Packet Radio Association is an organization of Amateur radio operators dedicated to the growth of the Amateur Packet Radio network in the Pacific Northwest. Membership is open to all interested individuals- an amateur radio license is not required for membership. NAPRA's yearly dues are $15.00 and include a subscription NAPRA's bimonthly newsletter Zero Retries. If you would prefer not to join NAPRA, a one-time contribution will help to build and upgrade the Northwest Packet Network.

Name: _____

Call: _____ Class:_____ Today's Date _____

Address: _____ Phone (w/AC) _____

City, State/Province, Zip/Postal Code: _____

Home Packet BBS: _____ TCP/IP Address: _____

Description of your current Radio, Packet (TNC), and computer equipment:

_____

Have radio gear for:

HF __ 10m __ 6m __ 2m __ 220 MHz __ 440 MHz __ 900/1296 MHz __

Are you a member of any Emergency organizations (Red Cross, ARES, etc.)

_____

Any information you do not wish published in the NAPRA Roster?

_____

Do you have any special skills with which you would be willing to help NAPRA to improve the Pacific Northwest Packet Network, such as RF Hardware, Digital Hardware, Software (Firmware, OS, or apps, what language?) machining, legal, financial, organinational, etc.? ALL are needed!

_____

How did you hear about NAPRA? _____

Any friends interested in packet or amateur radio that you would like a NAPRA introductory package sent to (including yourself)?

_____

Do you regularly listen to the Thursday evening packet radio ragchew on the Evergreen Intertie Repeater Network?

YES _____ NO _____ SOMETIMES _____ CHECK IN? _____ (Y/N)

Please return the completed application to:
NAPRA, 2948 217th Place SW, Brier, WA 98036

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NAPRA 1989 BOARD OF DIRECTORS

President:	Ren Roderick WA7QFR	488-3171	@WA7QFR
Executive Vice President:	Don Werts N7NKJ	246-1672	@KD7NM
Technical Vice President:	Steve Hazlett N7HFZ	888-1280	@N7HFZ
Secretary:	Dennis Goodwin KB7DZ	871-5818	@N7HFZ
Treasurer:	Peter Dahl WA7FUS	778-3581	@KD7NM
Director At Large:	Steve Stroh N8GNJ	481-5735	@KD7NM
Director At Large:	Cliff Neuman N1DMM	789-8788	@N7HFZ

NAPRA's officers and directors can be reached with a single message addressed to NAPRA @ N7HFZ.

The address for editorial contributions to Zero Retries is Steve Stroh N8GNJ, Editor, 14919 NE 163rd Street, Woodinville, WA 98072-8957, 206/481-5735, N8GNJ @ KD7NM

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Northwest Amateur Packet Radio Association
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Brier, WA 98036